

Applicants: John Loike and Samuel C. Silverstein  
Serial No.: 09/177,843  
Filed: October 22, 1998  
Page 3

--41.(amended) The method of claim 40, wherein the peptide  
comprises GRGDSP (SEQ ID NO:2).--

B3 *Alt*  
*C3*

REMARKS

Claims 27-41 are pending. Applicants have canceled claim 40 without prejudice to applicants' right to pursue the subject matter of this claim in one or more continuation applications. Applicants amended claim 1 to clarify the language, to correct a spelling error and to include the phrase "wherein the agent binds to a  $\beta_1$  integrin cell surface receptor." Support for this amendment may be found in the specification, *inter alia*, on page 12, lines 28-35. Claim 39 has been amended to include a Markush group of possible agents. Support for this amendment may be found in the specification, *inter alia*, on page 12, lines 28-35. Claim 41 has been amended to include a reference to a sequence number identifier. Finally, applicants have amended the title to more specifically reflect the claimed invention. These amendments raise no issue of new matter. Thus, claims 27-39 and 41 are now pending.

Rejection Under 35 U.S.C. §112, Second Paragraph

The Examiner rejected claims 27-41 under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner stated that as to claim 27, it is not clear whether the "method of treating malignant tumor" comprises the "malignant tumor cells..." - if so it is not clear what is being said. The Examiner stated that amending the claims to recite for e.g. "wherein the malignant tumor comprises tumor cells around which

Applicants: John Loike and Samuel C. Silverstein  
Serial No.: 09/177,843  
Filed: October 22, 1998  
Page 4

tenascin has been deposited..." may render the claim more definite. In addition, the Examiner stated that claim 27 is ambiguous in that it is not clear what the metes and bounds of "agent" is which can inhibit signaling. Furthermore, the Examiner stated that claim 27 is indefinite in the use of "capable of inhibiting" as it is not clear what the metes and bounds are of the activity associated with the "capable" is.

As to claim 39, the Examiner stated that it is not clear what the metes and bound of "peptide" are with respect to size, nature, etc.

As to claim 40, the Examiner stated that it is not clear if the  $\beta_1$  integrin binding domain is part of the peptide which is the  $\beta_1$  integrin itself or whether it is a peptide that binds to the  $\beta_1$  integrin.

Finally, as to claim 41, the Examiner stated that that it does not comply with the Sequence rules. The Examiner stated that the recited peptide must be designated by a SEQ ID NO.

#### Applicants' Reply

In reply, applicants traverse the rejection. Without conceding the correctness of the Examiner's position, applicants have canceled without prejudice claim 40.

As to claim 27, applicants have amended the first several lines of the claim as suggested by the Examiner in order to clarify the claim language. In addition, applicants have deleted the word "capable" and have introduced the phrase "wherein the agent binds to a  $\beta_1$  integrin cell surface receptor" in order to address the Examiner's concern regarding the term "agent." Applicants

Applicants: John Loike and Samuel C. Silverstein  
Serial No.: 09/177,843  
Filed: October 22, 1998  
Page 5

maintain that such a characteristic of the said agent renders the claim language definite and clear. A simple  $\beta_1$  integrin cell surface receptor binding assay would easily differentiate those agents which would fall within this claim from those which would not. Applicants maintain that claim 27 is clear and definite.

As to claim 39, applicants maintain that this claim is clear and definite. First, applicants point out that claim 27 has been amended to include the characteristic of "agent" (as discussed above) wherein the agent binds a  $\beta_1$  integrin cell surface receptor. Furthermore, applicants urge that specific molecular weights of a peptide are not required under 35 U.S.C. §112, second paragraph. Finally, applicants point out that claim 39 has been amended to include a Markush group of possible agents, all of which are subject to the characteristic which is recited in the independent claim 27. Therefore, applicants maintain that claim 39 is clear and definite.

With regard to claim 40, applicants have inserted a sequence identification number as requested by the Examiner.

In view of the amendments and remarks above, applicants respectfully request the Examiner to reconsider and withdraw these grounds of rejection under 35 U.S.C. §112, second paragraph and permit this application to pass to issue.

#### Claims Novel and Unobvious

Applicants appreciate and acknowledge the Examiner's statement that the claims appear to be free of the art.

Applicants: John Loike and Samuel C. Silverstein  
Serial No.: 09/177,843  
Filed: October 22, 1998  
Page 6

Information Disclosure Statement

In accordance with their duty of disclosure under 37 C.F.R. §1.56 and §1.97 (a)-(b), applicants would like to direct the Examiner's attention to the following documents:

1. International Search Report for International Application No. PCT/US97/06577, dated September 11, 1997 (**Exhibit B**);
2. Gao et al., Migration of Human Polymorphonuclear Leukocytes through a Synovial Fibroblast Barrier is Mediated by both  $\beta_2$ (CD11/CD18) Integrins and the  $\beta_1$ (CD29) Integrins VLA-5 and VLA-6. *Cellular Immunology*, 1995, Vol. 163, pages 178-186 (**Exhibit C**);
3. Wehrle-Haller, et al., Dual Function of Tenascin: Simultaneous Promotion of Neurite Growth and Inhibition of Glial Migration. *Journal of Cell Science*. October 1993, Vol. 106, pages 597-610 (**Exhibit D**);
4. U.S. Patent No. 5,278,063, Hubbell et al., issued January 11, 1994 (**Exhibit E**);
5. Vaudaux et al., Inhibition by Heparin and Derivatized Dextrans of Staphylococcus Aureus Adhesion to Fibronectin-coated Biomaterials. *J. Biomater. Sci. Polymer. Edn.* 1992, Vol. 4, No. 2, pages 89-97 (**Exhibit F**); and
6. Prieto et al., Multiple Integrins Mediate Cell

Applicants: John Loike and Samuel C. Silverstein  
Serial No.: 09/177,843  
Filed: October 22, 1998  
Page 7

Attachment to Cytotactin/Tenascin. Proc. Natl. Acad.  
Sci. USA, Nov. 1993, Vol. 90, pages 10154-10158  
(Exhibit G).

The above references are again listed on the substitute PTO Form 1449 attached hereto as **Exhibit A**. Copies of the documents listed hereinabove at attached hereto as **Exhibits B-G**. The Information Disclosure Statement fee of \$240.00 is enclosed herewith. Applicants request that the Examiner make these documents of record in the subject application.

If a telephone interview would be of assistance in advancing prosecution of the subject application, applicants' undersigned attorney invites the Examiner to telephone at the number provided below.

No fee, other than the \$195.00 extension of time fee and the \$240.00 Information Disclosure Statement fee is believed necessary in connection with the filing of this Amendment. If any additional fee is required, authorization is hereby given to charge the amount of such fee to Deposit Account No. 03-3125.

Respectfully submitted,

*Jane M. Love*

I hereby certify that this correspondence is being deposited this date with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to:  
Assistant Commissioner for Patents,  
Washington, D.C. 20231.

*Jane M. Love* 11/3/00

John P. White  
Reg. No. 28,678  
Jane M. Love  
Reg. No. 42,812

Date

John P. White  
Registration No. 28,678  
Jane M. Love  
Registration No. 42,812  
Attorneys for Applicants  
Cooper & Dunham LLP  
1185 Avenue of the Americas  
New York, New York 10036  
(212) 278-0400